

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled).

2. (Canceled).

3. (Canceled).

4. (Currently amended): ~~According to claim 2, the useful range of the linear ratio is obtained by combining the elbow angle and the rigidity of the plate according to the application required.~~ A variable obstruction method to obtain a linear ratio between a differential pressure and gas volumetric flow of a gas, wherein such method uses a sensor that comprises:
a rectangular section elbow-shaped duct which includes a symmetry cross section;
a rectangular flexible plate located on the symmetry cross section of the duct;
and wherein the method involves using the flexible plate at a rest state matching the symmetry cross section of the duct, and
wherein a useful range of the linear ratio is obtained by combining duct angle and rigidity of the plate.

5. (Canceled).

6. (Canceled).

7. (Canceled).

8. (Currently amended): ~~In the flow sensor according to claim 5, the amplitude of the vibration of the plate free edge during the passing of the flow is 0.5 mm when the sensor is at the upper limit of the measurement range.~~ A volumetric flow sensor for medical

applications comprising:

an elbow-shaped duct having a transversal section of symmetry, with two elbows, wherein the first elbow is at a side of the duct and the second elbow is at the other side of the duct, and two aligned tubular inflow and outflow segments, and being capable of measuring a flow in both directions with similar results;

a flexible rectangular plate having four edges, wherein one of the plate edges is further fixed on the duct and the remaining three plate edges are free and not fixed to the duct;

and the plate matches the symmetry cross section of the sensor at rest;

and wherein amplitude of vibration of the free edge of the plate opposite to the plate edge fixed to the duct during passing of the flow is 0.5 mm when the sensor is at an upper limit of a measurement range.

9. (Canceled).

10. (Canceled).

11. (New): A method to obtain a linear ratio between a differential pressure and gas volumetric flow, comprising:
a rectangular section elbow-shaped duct including a transversal section of symmetry;
a rectangular flexible plate with four edges; wherein the plate at a state of rest coincides with the transversal section of symmetry of the duct; wherein the plate is further fixed by one of the plate edges to an external edge of the duct; wherein the three remaining plate edges are free and not fixed to the duct;
and wherein a range for linear measurement of gas flow is determined by an angle of the duct and rigidity of the plate.

12. (New): A volumetric flow sensor for medical applications that measures gas flow in a bidirectional manner with similar results and that has a useful measurement range with an upper limit, comprising:
an elbow-shaped duct of transversal section of rectangular shape;
two duct segments that are straight and of a square section aligned between each other, wherein each straight segment is fixed to each end of the duct originating an additional elbow at each union with the duct;
two tubular segments that extend from the straight segments; and
a rectangular flexible plate that has four edges, wherein the location of the plate at state of rest coincides with the transversal section of symmetry of the duct, and wherein the plate is fixed on one of its edges to an external border of the duct, allowing the three remaining plate edges to be free and not fixed to the duct;

and wherein the amplitude of vibration of the free edge of the plate opposite to the plate edge fixed to the duct, during passing of the flow is 0.5 mm when the sensor is in the upper limit of useful measurement range.